

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 September 2005 (09.09.2005)

PCT

(10) International Publication Number
WO 2005/081904 A3

(51) International Patent Classification:

C07H 1/00 (2006.01) **C12P 21/00** (2006.01)
C07H 9/00 (2006.01) **C12P 19/60** (2006.01)
C07H 5/04 (2006.01) **A23C 9/154** (2006.01)
C07H 5/06 (2006.01) **C12N 9/10** (2006.01)
C07G 11/00 (2006.01) **A01N 43/04** (2006.01)
A01K 67/027 (2006.01) **A61K 31/70** (2006.01)

Prefecture 390-1301 (JP). **FUKUDA, Minoru** [US/US];
2818 Passy Avenue, San Diego, CA 92122 (US). **KAT-SUYAMA, Tsutomu** [JP/JP]; Ohte 2-4-13, Matsumoto,
Nagano Prefecture 390-0874 (JP).

(21) International Application Number:

PCT/US2005/005407

(22) International Filing Date:

18 February 2005 (18.02.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/546,600 20 February 2004 (20.02.2004) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 60/546,600 (CIP)
Filed on 20 February 2004 (20.02.2004)

(71) Applicants (for all designated States except US): **THE BURNHAM INSTITUTE** [US/US]; 10901 North Torrey Pines Road, La Jolla, CA 92037 (US). **SHINSHU UNIVERSITY** [JP/JP]; Asahi 3-1-1, Matsumoto, 390-8621 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NAKAYAMA, Jun** [JP/JP]; Agata 1-9-2-301, Matsumoto, Nagano Prefecture 390-1301 (JP). **KAWAKUBO, Masatomo** [JP/JP]; Yamagata-Mura 3507-11, Higashichikuma-Gun, Nagano

(74) Agent: **HAILE, Lisa, A.**; DLA Piper Rudnick Gray Cary US LLP, 4365 Executive Drive, Suite 1100, San Diego, CA 92121-2133 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US (patent), UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:

27 July 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ANTIMICROBIAL CARBOHYDRATES AND METHODS OF USING SAME

(57) Abstract: Compositions useful for inhibiting the growth of bacteria, including bacteria that can cause gastric ulcers, are provided. In addition, transgenic organism that can produce such compositions are provided. Methods of using the compositions to treat or prevent gastric ulcers in a subject, including a human subject, also are provided.



WO 2005/081904 A3